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ABSTRACT

After a review of literature on the subject of vocational interests the authors go on to define the main problem investigated in this study, that of determining the relationship between expressed and tested vocational interests of four groups of people (disadvantaged males and females and nondisadvantaged males and females), in this case with grade students. A list of 24 interest areas was used. The findings are tabulated, analyzed and discussed in detail. Differences were found with respect to expressed vs. tested interest areas as follows: disadvantaged males, three areas; advantaged males, ten areas; disadvantaged females, eleven areas; and advantaged females, two areas. Disadvantaged males showed greater interest in all areas than advantaged males, while the findings were mixed for female subjects. Males and females of both groups gave similar rank ordering to the interest areas. Some differences were found between high and low ability students. In comparison with national norms disadvantaged males displayed consistently higher scores. Recommendations for counselors, and others who interpret vocational interest information, are made in the following areas: sex differences, sociocultural differences, and ability differences. (SA)

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Analyzing Vocational Interests

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ANALYZING VOCATIONAL INTERESTS

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CHAPTER I

THE PROBLEM AND PROCEDURE

Introduction

Guidance counselors, and others with counseling responsibilities, have long been faced with the problem of identifying information which should be used in counseling sessions. The problem is made more complex by the fact that more and more information concerning students is becoming available. Instead of simplifying the counselor's job, this explosion of information has made the decision-making process more difficult. Often, counselors have so many types of information that they do not know how to relate one type of information to another in order to make effective use of both.

Because of the recent renewed national interest in career development topics, and the continued emphasis on providing aid to those with special needs, counselors are very much in the spotlight. They have been charged with helping students with varying interests, needs and abilities choose career directions which will provide them with the opportunity to become happy, contributing members of society.

The overriding problem has been to determine what a student's interests, needs, and abilities were and to help him make career decisions based on this determination. If good decisions were made, students would choose occupations which would make maximum use of his or her interests, needs, and abilities. Although needs and abilities are very important, this study was directed primarily at the third crucial area -- determiming the vocational interests of students and the variations of interests in special sub-groups.

Review of the Literature

Literature on the subject of vocational interests is relatively scarce, especially reports of experimental or quasi-experimental research. The

following literature review covers articles on determining interests or aspirations and other related topics.

Olive (1973) studied the vocational preferences of 197 male and 237 female high school students. She found that there was no significant difference between the male and female adolescents in terms of their general intelligence. However, when asked to indicate any occupation which they would "like to enter," the female group chose occupations with significantly higher social status than those chosen by the group of males.

Olive pointed out that even though the females aspired to higher status occupations than did males, they did not aspire to those occupations which were of highest status, such as high-level administrative positions or those requiring professional degrees. Their choices tended to focus upon professions which ranked just below the highest. These occupations, such as social work, teaching, and secretarial work, are among those traditionally considered as "feminine" occupations and which require less education than the highest-status occupations.

Olive concluded that it is more difficult to counsel females than males because females may tend to suppress their interests in some potential occupations, even though they possess the intellectual ability to succeed in these occupations.

Olive's finding that there are sex differences in terms of vocational preferences was supported by Omvig and Darley (1972). They compared the expressed and tested interests of disadvantaged male and female students. For the male subjects, expressed and tested interests were highly correlated in 21 of 24 work areas. For females, only in 13 work areas did they exhibit high correlations between expressed and tested interests. Female responses seemed to follow the stereotypes concerning "female" occupations while males seemed to have much less stereotyped responses. Omvig and Darley suggested that the

expressed interests of students should be considered in the counseling setting and that sex needs to be considered in using interest information.

Berman (1972) studied the relationship of ethnic group membership to occupational aspirations for a group of 545 female high school seniors. Berman found that aspirations were related to ethnic group membership. Blacks aspired to be nurses, secretaries, and teachers, in that order. Puerto Rican students demonstrated a preference for secretarial, nursing, and teaching occupations. Chinese females aspired to be teachers first, bookkeepers second, and accountants third. The white group exhibited most interest in the secretarial occupation. Teaching and nursing followed in order. For the most part, the occupations chosen were representative of traditional female occupations. Although Berman claims that ethnic group membership was found to be related to occupational aspirations, no statistical treatment of the data was undertaken to support the finding.

The vocational interests of black male college students were studied by Hager and Elton (1971). The researchers used an interest inventory to assess the vocational interests of two groups of college freshmen. Both groups, one made up of white students and the other of black students, came primarily from similar socioeconomic backgrounds -- families with low incomes. Hager and Elton found that blacks tended to register interest in social service occupations. White students were more likely to choose scientifically-oriented occupational areas.

Cosby and Picou (1973) observed that studies of the relationship of race to occupational aspirations have led to contradictory conclusions. They attempted to overcome the deficiencies apparent in other studies by computing effect estimates for four structural variables -- father's education, father's occupation, residence, and race. The effect estimates for the first three

variables were found to be statistically significant while the effect estimate for race was not. The aspirations of blacks in the study were similar to those of whites.

The Cosby and Picou findings support the career development theorists who emphasize the importance of social class background in influencing vocational choice. One of the earliest theorists was Ginzberg who, along with Ginsburg, Axelrad, and Herma (1951), studied the effects of social class on vocational choice. They concluded that boys from lower socioeconomic levels followed the same general pattern as did those from more favored homes, but an increase in passivity was exhibited by boys from lower income families. During their earlier years, the disadvantaged were just as concerned about their future occupations as were the more advantaged youth. However, the disadvantaged individual became less inclined to actively pursue the realization of his aspiration.

Super (1953) also considered the importance of social class when he developed his propositions on career development. One proposition identified the individual's parental socioeconomic level as a major determiner of career patterns, since the early contact which the individual has with the world of work is largely through parents, family, and friends. Reports of research directed toward vocational interests of culturally different groups indicate that youth from higher socioeconomic backgrounds generally aspire to enter occupations which are perceived as being higher in status (Sewell, Haller, & Strauss, 1957; Sewell & Orienstein, 1965; and Cosby & Picou, 1971).

Most of the literature is concerned with students at the high school or college level. Campbell and Parsons compared junior high school students in terms of their readiness for vocational planning. Students representing four geographical regions comprised the sample of 2,370 junior high school students.

Campbell and Parsons concluded that the majority of junior high school students exhibited a readiness for vocational planning. Furthermore, where differences between disadvantaged and nondisadvantaged students were identified, no group was consistently favored. The disadvantaged group had given more thought to school plans and to future jobs. The nondisadvantaged group had higher vocational maturity scores and higher occupational aspiration levels. Neither group was favored in terms of amount of perceived vocational choice and obstacles to implementing their job plans.

The Problem

Several problems were under simultaneous investigation in this study. This section is devoted to listing the problems which were to be solved, the objectives which were to be attained, and the hypotheses to be tested.

Problem Statements

The overall problem was to determine the relationship which existed between expressed and tested vocational interests of four special groups of people (disadvantaged males and females and nondisadvantaged males and females). Other problems were related to making comparisons across groups and subgroups. More specifically, the following research questions were posed:

1. What is the correlation between expressed and tested interests of four special groups of students?
2. Is there a difference between disadvantaged and nondisadvantaged students relative to vocational interests?
3. Are the vocational interests of special groups of students different from the established national norms?
4. Do the vocational interests of high-ability students differ from those of low-ability students?

In order to answer these questions and accomplish certain other tasks, several objectives were established.

Objectives of the Study

The study had the following objectives:

1. To collect data concerning the expressed and tested vocational interests of two special groups of students.

2. To determine the correlation between expressed and tested interest scores, by group.

3. To determine the rank order correlation of tested interest scores.

4. To compare the tested interests of students to the national norms.

5. To identify students of high and low academic ability and compare the tested interests of the two groups.

Hypotheses

The following null hypotheses were tested in order to solve the problems outlined previously:

Null Hypothesis 1: There is no significant difference between the expressed and tested vocational interests of a group of disadvantaged males.

Null Hypothesis 2: There is no significant difference between the expressed and tested vocational interests of a group of nondisadvantaged males.

Null Hypothesis 3: There is no significant difference between the expressed and tested vocational interests of a group of disadvantaged females.

Null Hypothesis 4: There is no significant difference between the expressed and tested vocational interests of a group of nondisadvantaged females.

Null Hypothesis 5: There is no significant difference between disadvantaged and nondisadvantaged males on a measure of expressed vocational interests.

Null Hypothesis 6: There is no significant difference between disadvantaged and nondisadvantaged males on a measure of tested vocational interests.

Null Hypothesis 7: There is no significant difference between disadvantaged and nondisadvantaged females on a measure of expressed vocational interests.

Null Hypothesis 8: There is no significant difference between disadvantaged and nondisadvantaged females on a measure of tested vocational interests.

Null Hypothesis 9: There is no significant difference between disadvantaged and nondisadvantaged males in the rank ordering of vocational interest areas.

Null Hypothesis 10: There is no significant difference between disadvantaged and nondisadvantaged females in the rank ordering of vocational interest areas.

Null Hypothesis 11: There is no significant difference between high-ability and low-ability males on a measure of expressed vocational interests.

Null Hypothesis 12: There is no significant difference between high-ability and low-ability males on a measure of tested vocational interests.

Null Hypothesis 13: There is no significant difference between high-ability and low-ability females on a measure of expressed vocational interests.

Null Hypothesis 14: There is no significant difference between high-ability and low-ability females on a measure of tested vocational interests.

Limitations and Delimitations

The study was delimited to a consideration of the vocational interests of ninth-grade students from two junior high schools in the same Kentucky city. The measurement of vocational interests was limited to the extent that the instruments utilized were able to adequately assess such interests. The measurement of academic aptitudes was limited to the acquisition of available Differential Aptitude Test (DAT) scores of students.

The Procedure

This section is a discussion of the population and sample, the data collection and instrumentation, and the methods utilized to score, record, and analyze the data.

Population and Sample

The population of this study was comprised of all the ninth-grade students in a school system which serves an area with approximately 160,000 residents. Two primary sample groups were chosen; one to represent the disadvantaged students from the inner-city and one to represent the students from the most affluent families in the area.

With the help of the staff at the central office of the school system, an inner-city junior high school which served socioeconomically disadvantaged students was identified. Another school, serving students from families judged to be the most affluent in the area, was identified. The principal of each school was contacted, the study was explained, and permission to conduct testing was granted. The guidance counselors in each school were invited to participate in some parts of the study.

From each junior high school, a sample of approximately 100 students was chosen. More specifically, with the help of guidance counselors, 99 students who were perceived as being from the lowest socioeconomic backgrounds were identified in one school. A similar procedure was used to identify 101 students with the highest socioeconomic status from the other school. The final samples consisted of 47 disadvantaged males, 52 disadvantaged females, 43 high socioeconomic status males, and 58 high socioeconomic status females.

In order to test the hypotheses concerned with possible differences between students of different ability levels, it was necessary to draw two other sample groups. From the group of students representing the school in the affluent neighborhood (approximately 317 ninth-grade students), 62 high-ability and 65 low-ability students were identified. This identification was based on the DAT scores available for the students. High-ability students were identified as those who scored at or above the 75th precentile in mathematical and verbal areas. Low-ability students were identified as those who scored at

or below the 25th percentile in those areas. Since the data were analyzed separately for males and females, there were really four sample groups; 30 high-ability males, 33 low-ability males, 32 high-ability females, and 32 low-ability females.

Data Collection and Instrumentation

Three principal types of data were collected. They were (1) data concerning the vocational interests of students as overtly expressed by students, (2) data concerning the vocational interests of students as assessed with the Ohio Vocational Interest Survey (OVIS), and, (3) other data on students required for establishing sub-groups, including Differential Aptitude Scores (DAT) and an estimate of socioeconomic status.

The instrument used to gather data relative to expressed vocational interests was locally developed (Appendix A). It was administered one week before the OVIS instrument. The instrument consisted of one sheet on which the 24 OVIS work areas were listed. As a description of each work area was read aloud to students (Appendix B), they indicated their interest in the area by responding on a five-point Likert-type scale. The scale ranged from "like very much" to "dislike very much." A value of 5 was attached to an answer of "like very much" and a value of 1 was assigned to "dislike very much."

The second section of the OVIS instrument was used to collect data on tested vocational interests. This was a relatively new test developed by D'Costa, Winefordner, Odgers, and Koons (1969). The norms were developed in 1969, with approximately eight percent of the standardization population being black. The test measures interest in 24 work areas formulated from the data, people, things classification of the Dictionary of Occupational Titles (DOT). It was designed in this way so that student interests could be examined in terms of their desire to be involved with data, people, and/or things and so that this information could be easily related to the DOT.

The second section of the OVIS contains descriptions of 280 actual job activities. There are approximately 11 items which relate to each of the 24 work areas. The student is required to make a decision about whether he would like or dislike each activity. He indicates his by responding to a five-point Likert-type scale ranging from "like very much" to "dislike very much." Since a value of 5 was assigned to "like very much," a score for one work area could range from 55 to 11. A 55 would indicate that the student marked "like very much" for all 11 items related to the work area. A score of 11 would be an indication that "dislike very much" was the response to all the work activities related to a specific OVIS scale.

The first section of the OVIS instrument can be used to gather survey information on students as requested by local school personnel and some questions can be designed individually by school. Section 1 of the OVIS consists of the Student Information Questionnaire, which require students to respond to six items. Item 1 lists 27 activities or work areas. Students indicate which activity they would like most to do (First Choice) and which they would like second best (Second Choice). Item 2 allows students to indicate which school subjects they like (First Choice and Second Choice). Item 3 asks what high school program they are taking or plan to take. Information about post-high school educational training plans is asked for in Item 4. Item 5 asks if students would take a business or vocational program if they were offered as a part of the high school curriculum. Finally, Item 6 lists business and vocational programs available in many high schools. Students indicate which programs (First Choice and Second Choice) they would choose if offered the opportunity.

The OVIS answer sheet also allows the administrator to include locally-developed questions. This Local Survey Information section provides for a maximum of eight local items.

Data relative to the academic aptitude of the high socioeconomic students were gathered from existing school records. Differential Aptitude Test (DAT) scores were used in order to identify high-ability and low-ability students.

Scoring, Recording, and Analyzing Data

The OVIS answer sheets were machine-scored through the scoring service operated by the test publisher. The print-outs included information on Parts 1 and 2 of the interest survey as well as the local survey items. Hand-scoring was done with the locally-developed instrument to assess expressed interests.

Data were recorded on optical scan sheets. These sheets were used to produce a deck of punched cards which were used for electronic data processing at the University of Kentucky Computing Center.

T-tests were computed to test some hypotheses concerning differences between groups or between two measurements within a group. Correlations, both Pearson Product-Moment correlation coefficients and Spearman rank order correlation coefficients were computed to determine relationships and test some hypotheses concerning group differences.

CHAPTER II

THE FINDINGS

This section is a presentation of the findings, and includes a discussion of them. The findings are presented as they relate to the objectives of the study.

Expressed Versus Tested Vocational Interests

Data were collected relative to the expressed and tested vocational interests of two special groups of students. Data were analyzed separately for males and females. Under Objectives 1 and 2, Null Hypothesis 1-8 were tested.

Information concerning the expressed and tested interests of inner-city disadvantaged youth is presented in Table 1.

Disadvantaged females expressed highest interest in the following areas: Clerical Work ($\bar{X}$=4.33), Teaching/Counseling/Social Work (4.02), and Nursing/Technical Services (3.94). These are all areas where black females have traditionally found job opportunities. They expressed least interest in Crafts/Precise Operations (1.87), Agriculture (2.00), Appraisal (2.35), Applied Technology (2.35), and Manual Work (2.36).

The tested interests of this group were somewhat different. Disadvantaged females tested highest in the area of Care of People/Animals (39.62). Next came Clerical Work (37.81), Nursing/Technical Services (37.65), Skilled Personal Services (35.90), and Teaching/Counseling/Social Work (35.60). The lowest tested interest areas were Machine Work (21.11), Manual Work (22.58), Applied Technology (23.27), Agriculture (23.58), and Crafts/Precise Operations (23.60).

The correlation coefficients ranged from a low of .06 for the area of Manual Work to a high of .55 in the area of Nursing/Technical Services. Thirteen of the 24 OVIS work areas displayed correlations sufficiently high to lead to a conclusion that no significant difference existed between the

TABLE 1. EXPRESSED AND TESTED VOCATIONAL INTERESTS OF DISADVANTAGED YOUTH

	Means and Correlation Coefficients					
	Females (n=52)			Males (n=47)		
Work Area	Expressed Mean	Tested Mean	r	Expressed Mean	Tested Mean	r
Manual Work	2.36	22.58	.06*	3.34	32.32	.45
Machine Work	2.75	21.11	.37	3.81	35.49	.53
Personal Service	3.54	32.81	.48	3.04	32.96	.43
Care of People/Animals	3.73	39.62	.16*	3.40	34.83	.43
Clerical Work	4.33	37.81	.30*	3.15	33.34	.52
Inspecting/Testing	3.27	27.45	.26*	3.32	34.19	.17*
Crafts/Precise Operations	1.87	23.60	.26*	.374	35.79	.42
Customer Services	3.42	35.17	.35*	3.38	35.60	.40
Nursing/Technical Services	3.94	37.65	.55	2.62	36.02	.40
Skilled Personal Services	3.21	35.90	.25*	2.85	32.77	.37*
Training	3.09	32.85	.25*	3.74	39.55	.50
Literary	2.42	31.58	.25*	2.66	34.40	.44
Appraisal	2.35	25.11	.30*	3.21	34.77	.38
Agriculture	2.00	23.58	.40	3.19	33.57	.54
Applied Technology	2.35	23.27	.37	3.70	36.96	.55
Promotion/Communication	3.29	30.04	.47	3.62	35.19	.40
Management/Supervision	2.83	30.37	.44	3.85	36.40	.45
Artistic	3.38	34.98	.39	3.21	36.00	.53
Sales Representative	3.04	27.35	.44	3.17	34.21	.33*
Music	3.69	34.31	.51	3.89	37.57	.52
Entertainment/Performing Arts	3.52	34.27	.31*	3.70	36.59	.49
Teaching/Counseling/ Social Work	4.02	35.60	.45	3.32	33.45	.49
Medical	3.46	30.71	.53	3.74	34.94	.47

*Indicates nonsignificant correlation at the .01 level of significance; therefore, a significant difference exists between expressed and tested interests.

expressed and tested interest in each area. In the other 11 areas, correlations were sufficiently low to support a conclusion that a difference did exist between the expressed and tested interest in each area.

Females may have tended to give stereotyped responses on the instrument which measured expressed vocational interests. The areas of highest interest may be a general reflection of their knowledge of work areas which have traditionally been open to women, particularly black women. They may have responded as they felt they would be expected to respond. The tested interests of disadvantaged females may be a more valid indicator of their actual interests.

Disadvantaged males expressed highest interest in Music (3.89), Management/Supervision (3.85), Machine Work (3.81), Crafts/Precise Operations (3.74), Training (3.74), and Medical (3.74). Lowest expressed interest areas were Nursing/Technical Services (2.62), Literary (2.66), and Skilled Personal Services (2.85). These areas of low interest are those in which interests could be expected to be low for this group.

When the tested interest scores were examined, the following interest areas had the highest mean scores: Training (39.55), Music (37.57), Applied Technology (36.96), Entertainment/Performing Arts (36.59), and Management/Supervision (36.40). Training, Music, and Management/Supervision were areas which appeared high on both the expressed and tested lists. The interest in the Management/Supervision work area may be somewhat of a surprise. This is an area which has not generally been one to which students with this type background could realistically aspire. The high expressed and tested interest in this area may be an indication that (1) disadvantaged males do not tend to give stereotyped responses on interest scales, and/or (2) disadvantaged males perceive that opportunities in this area are now opening up to those from minority groups or with other types of disadvantagements.

Males tested low in interest in the areas of Manual Work (32.32), Skilled Personal Services (32.77), Personal Service (32.96), and Numerical (33.23).

With the exception of Skilled Personal Services, these are areas in which this group of males might be expected to exhibit little interest. Skilled Personal Services, an area which includes such occupations as tailoring, cooking, and barbering, is an occupational area which will offer more and more job opportunities in the future. The relative lack of interest in this area may be a result of little knowledge as to the potential of these types of work activities.

Overall, the male responses seemed to be less stereotyped than female responses. They were widely dispersed across the various work areas. In fact, the ranges of expressed and tested interests were small. Males tended to exhibit more interest in all vocational areas than did females.

The disadvantaged males also exhibited consistently higher correlations between expressed and tested interests. The correlations were sufficiently high in 21 out of the 24 OVIS areas to support a conclusion that no significant differents existed between the expressed and tested interests. In three areas--Inspecting/Testing (r=.17), Skilled Personal Services (.37), and Sales Representative (.33)--correlations were sufficiently low to reject the null hypothesis of no difference between expressed and tested interests.

The other special group of students involved in the study was a sample of students from high socioeconomic backgrounds. Table 2 contains information relative to the vocational interests of these students. Again, male and female responses were analyzed separately.

Females from the most affluent families expressed most interest in the following OVIS areas: Artistic (4.21), Care of People/Animals (3.90), and Teaching/Counseling/Social Work (3.81). Low interest areas were Manual Work (1.72), Machine Work (1.74), Appraisal (1.88), and Applied Technology (1.98). These findings were not unexpected. Females from this social class would be expected to be somewhat oriented to social service occupations. They would also be expected to exhibit little interest in areas requiring little involvement

TABLE 2. EXPRESSED AND TESTED VOCATIONAL INTERESTS OF HIGH SOCIOECONOMIC YOUTH

	Means and Correlation Coefficients					
	Females (N = 58)			Males (N = 43)		
Work Area	Expressed Mean	Tested Mean	r	Expressed Mean	Tested Mean	r
Manual Work	1.72	18.34	.40	2.09	20.95	.49
Machine Work	1.74	15.29	.50	2.91	24.88	.54
Personal Service	3.07	26.78	.53	2.37	22.02	.21*
Care of People/Animals	3.90	36.97	.54	3.12	25.07	.26*
Clerical Work	3.60	30.22	.63	2.40	21.77	.44
Inspecting/Testing	2.26	20.76	.17*	2.84	23.19	.43
Crafts/Precise Operations	2.24	18.97	.47	3.60	26.42	.46
Customer Services	3.74	31.57	.40	2.95	24.53	.33*
Nursing/Technical Services	3.31	30.38	.42	2.49	23.77	.23*
Skilled Personal Services	3.02	28.72	.45	2.05	22.42	.29*
Training	3.47	31.36	.18*	2.95	29.81	.22*
Literary	2.90	27.79	.69	2.16	24.67	.43
Numerical	2.29	19.17	.66	2.81	28.67	.75
Appraisal	1.88	20.19	.38	3.37	29.86	.52
Agriculture	3.16	24.00	.53	3.44	28.58	.61
Applied Technology	1.98	19.66	.38	3.37	33.23	.62
Promotion/Communication	3.57	26.21	.60	3.47	27.58	.60
Management/Supervision	2.83	23.28	.38	3.28	27.49	.44
Artistic	4.21	35.91	.55	2.93	25.86	.27*
Sales Representative	2.26	20.59	.36	2.63	25.74	.38*
Music	3.55	31.97	.70	2.77	27.63	.66
Entertainment/Performing Arts	3.67	31.86	.72	2.58	24.19	.47
Teaching/Counseling/Social Work	3.81	28.91	.53	2.86	24.21	.32*
Medical	3.24	23.10	.51	3.42	24.42	.32*

*Indicates nonsignificant correlation at the .01 level of significance, therefore, a significant difference exists between expressed and tested interests.

with people.

The OVIS test results revealed that the highest tested interest area was Care of People/Animals (36.97). Other high interest areas were Artistic (35.91), Music (31.97) Entertainment/Performing Arts (31.86), Customer Services (31.57), and Training (31.36). Machine Work (15.29), Manual Work (18.34), Crafts/Precise Operations (18.97), Numerical (19.17), and Applied Technology (19.66) were the areas of lowest tested interest for this group of females.

The correlations between expressed and tested interests of this group tended to be high. The correlations were high enough in 22 out of the 24 areas that the null hypothesis of no difference could not be rejected. Only in the areas of Inspecting/Testing (r=.17) and Training (.18) were the correlations sufficiently low that the null hypothesis could be rejected. Females from high socioeconomic backgrounds exhibited expressed and tested vocational interests which were more closely related than did their counterparts from less affluent homes.

Males from the more affluent backgrounds tended to exhibit relatively low interest in all vocational areas. No expressed interest mean was above 3.60 and no tested interest mean was above 33.23. Areas of highest expressed interest were Crafts/Precise Operations (3.60), Management/Supervision (3.47), Agriculture (3.44), and Medical (3.42). Low interest was expressed for the following areas: Skilled Personal Services (2.05), Manual Work (2.09), Literary (2.16), and Personal Services (2.37). Probably the most unusual finding here was the relatively high interest expressed in Agriculture. This work area is one which will offer good opportunities in the future as it relates to occupations in the areas of environmental protection and natural resource utilization for recreational purposes. It is possible that these students perceived the potential of this work area and were attracted to it.

Tested interests were highest in these OVIS areas: Applied Technology

(33.23), Appraisal (29.86), Training (29.81), Numerical (28.67), and Agriculture (28.58). Again, Agriculture was rated high, but other high tested interests differed from the highest expressed interests. Low tested interest areas were Manual Work (20.95), Clerical Work (21.77), Personal Services (22.02), and Skilled Personal Services (22.42).

Correlations tended to vary widely. They ranged from a low of .21 to a high of .76. Ten of the 24 correlations were low enough that the null hypothesis of no difference could be rejected. This was a pattern which was different from that exhibited by the males from the disadvantaged group. The relationship between expressed and tested interests of high socioeconomic males tended to be less strong than the relationship established for their less affluent counterparts.

In order to more closely examine differences that might have existed between the special student groups, t-tests were used. Comparisons were made between the two groups of males on both expressed and tested interest data. Similar comparisons were made between the two groups of females. Table 3 presents the t-test information on expressed interests for the males.

An examination of Table 3 revealed that significant t-ratios were computed on 11 of the 24 variables. Where differences between the groups were identified, without exception, the higher mean score was obtained by the disadvantaged males. In fact, the group of disadvantaged males had higher means in 22 of the 24 work areas. Only in the areas of Appraisal and Agriculture did the high socioeconomic group exhibit more interest than the other group and in both these cases, nonsignificant t-ratios resulted. Disadvantaged students consistently expressed more interest in the work areas than did the more advantaged males.

Group differences are even more vividly shown by Table 4, which contains information about tested interests. Not only were the means for the disadvantaged group higher in every case, they were significantly higher. On all

TABLE 3. MEANS, STANDARD DEVIATION, T-RATIOS, AND T-PROBABILITIES FOR DISADVANTAGED AND NON-DISADVANTAGED MALES ON EXPRESSED INTERESTS

	DISADVANTAGED (N=47)		NON-DISADVANTAGED (N=43)			
Work area	$\bar{X}$	SD	$\bar{X}$	SD	T-ratio	T-prob.
Manual Work	3.34	1.11	2.09	1.17	5.19	0.00*
Machine Work	3.81	1.12	2.91	1.17	3.74	0.00*
Personal Service	3.04	1.27	2.37	1.02	2.74	0.01*
Care of People/Animals	3.40	1.15	3.12	1.12	1.20	0.23
Clerical Work	3.15	1.23	2.40	1.12	3.03	0.00*
Inspecting/Testing	3.32	1.04	2.84	1.07	2.16	0.03*
Crafts/Precise Operations	3.74	1.28	3.60	1.16	0.54	0.59
Customer Services	3.38	1.21	2.95	0.92	1.90	0.06
Nursing/Technical Services	2.62	1.19	2.49	1.16	0.52	0.61
Skilled Personal Services	2.85	1.25	2.05	0.90	3.53	0.00*
Training	3.74	0.97	2.95	1.07	3.69	0.00*
Literary	2.66	1.27	2.16	1.21	1.89	0.06
Numerical	3.00	1.18	2.81	1.38	0.69	0.49
Appraisal	3.21	1.12	3.37	1.16	-0.66	0.51
Agriculture	3.19	1.28	3.44	1.30	-0.92	0.36
Applied Technology	3.70	1.08	3.37	1.43	1.23	0.22
Promotion/Communication	3.62	1.01	3.47	1.24	0.64	0.52
Management/Supervision	3.85	0.98	3.28	1.28	2.37	0.02*
Artistic	3.21	1.23	2.93	1.30	1.06	0.29
Sales Representative	3.17	1.07	2.63	1.22	2.25	0.03*
Music	3.89	1.20	2.77	1.41	4.09	0.00*
Entertainment/Performing Arts	3.70	1.20	2.58	1.37	4.15	0.00*
Teaching/Counseling/Social Work	3.32	1.25	2.86	1.28	1.71	0.09
Medical	3.74	1.19	3.42	1.37	1.21	0.23

*Indicates nonsignificant correlation at the .01 level of significance; therefore, a significant difference exists between expressed and tested interests.

TABLE 4. MEANS, STANDARD DEVIATION, T-RATIOS, AND T-PROBABILITIES FOR DISADVANTAGED AND NON-DISADVANTAGED MALES ON TESTED INTERESTS

Work Area	DISADVANTAGED (N=47) $\bar{X}$	SD	NON-DISADVANTAGED (N=43) $\bar{X}$	SD	T-ratio	T-prob.
Manual Work	32.32	8.68	20.95	1.19	6.55	0.00*
Machine Work	35.49	8.76	24.88	1.32	5.79	0.00*
Personal Service	32.96	8.91	22.02	1.08	6.43	0.00*
Care of People/Animals	34.83	8.60	25.07	0.84	6.49	0.00*
Clerical Work	33.34	6.70	21.77	0.94	8.54	0.00*
Inspecting/Testing	34.19	8.11	23.19	1.00	7.06	0.00*
Crafts/Precise Operations	35.79	8.08	26.42	1.17	5.65	0.00*
Customer Services	35.60	8.02	24.53	1.12	6.83	0.00*
Nursing/Technical Services	36.02	8.86	23.77	1.17	7.02	0.00*
Skilled Personal Services	32.77	7.93	22.42	1.05	6.61	0.00*
Training	39.55	6.98	29.81	1.15	6.41	0.00*
Literary	34.40	7.11	24.67	0.94	6.95	0.00*
Numerical	33.23	8.93	28.67	1.59	2.25	0.03*
Appraisal	34.77	7.85	29.86	1.06	3.15	0.00*
Agriculture	33.57	9.45	28.58	1.53	2.45	0.02*
Applied Technology	36.96	8.45	33.23	1.38	2.03	0.05*
Promotion/Communication	35.19	7.58	27.58	1.24	4.62	0.00*
Management/Supervision	36.40	6.94	27.49	1.20	5.75	0.00*
Artistic	36.00	7.61	25.86	1.13	6.44	0.00*
Sales Representative	34.21	8.54	25.74	1.33	4.68	0.00*
Music	37.57	8.45	27.63	1.72	4.75	0.00*
Entertainment/Performing Arts	36.60	8.13	24.19	1.07	7.76	0.00*
Teaching/Counseling/Social Work	35.45	7.98	24.21	1.02	7.23	0.00*
Medical	34.94	9.25	24.42	1.24	5.73	0.00*

*Indicates nonsignificant correlation at the .01 level of significance; therefore, a significant difference exists between expressed and tested interests.

TABLE 5. MEANS, STANDARD DEVIATION, T-RATIOS, AND T-PROBABILITIES FOR DISADVANTAGED AND NON-DISADVANTAGED FEMALES ON EXPRESSED INTERESTS

Work Area	DISADVANTAGED (N=52) $\bar{X}$	SD	NON-DISADVANTAGED (N=58) $\bar{X}$	SD	T-ratio	Tprob.
Manual Work	2.37	1.14	1.72	0.95	3.22	0.00*
Machine Work	2.75	1.28	1.74	0.81	4.87	0.00*
Personal Service	3.54	1.23	3.07	1.07	2.14	0.03*
Care of People/Animals	3.73	1.29	3.90	1.17	-0.71	0.48
Clerical Work	4.33	0.96	3.60	1.18	3.49	0.00*
Inspecting/Testing	3.27	1.09	2.26	1.07	4.91	0.00*
Crafts/Precise Operations	1.86	0.95	2.24	1.17	-1.83	0.07
Customer Services	3.42	1.19	3.74	0.91	-1.56	0.12
Nursing/Technical Services	3.94	1.11	3.31	1.29	2.74	0.01*
Skilled Personal Services	3.21	1.26	3.02	1.21	0.83	0.41
Training	3.10	1.21	3.47	1.11	-1.67	0.10
Literary	2.42	1.07	2.90	1.63	-1.82	0.07
Numerical	2.37	1.16	2.29	1.26	0.31	0.76
Appraisal	2.35	1.20	1.88	1.08	2.15	0.03*
Agriculture	2.00	1.08	3.16	1.42	-4.81	0.00*
Applied Technology	2.35	1.15	1.98	1.12	1.68	0.10
Promotion/Communication	3.29	1.09	3.57	1.23	-1.26	0.21
Management/Supervision	2.82	1.28	2.83	1.14	-0.00	0.99
Artistic	3.38	1.27	4.21	1.02	-3.76	0.00*
Sales Representative	3.04	1.24	2.26	1.00	3.65	0.00*
Music	3.69	1.31	3.55	1.42	0.54	0.59
Entertainment/Performing Arts	3.52	1.31	3.67	1.34	-0.61	0.55
Teaching/Counseling/Social Work	4.02	1.24	3.81	1.30	0.86	0.39
Medical	3.46	1.28	3.24	1.49	0.83	0.41

*Indicates nonsignificant correlation at the .01 level of significance; therefore, a significant difference exists between expressed and tested interests.

TABLE 6. MEANS, STANDARD DEVIATION, T-RATIOS, AND T-PROBABILITIES FOR DISADVANTAGED AND NON-DISADVANTAGED FEMALES ON TESTED INTERESTS

	DISADVANTAGED (N=52)		NON-DISADVANTAGED (N=58)			
Work Area	$\bar{X}$	SD	$\bar{X}$	SD	Tratio	Tprob.
Manual Work	22.56	7.47	18.34	5.77	3.28	0.00*
Machine Work	21.12	8.09	15.29	4.82	4.52	0.00*
Personal Service	32.81	10.00	26.78	9.24	3.29	0.00*
Care of People/Animals	39.62	8.87	36.97	10.55	1.43	0.16
Clerical Work	37.81	7.36	30.22	10.41	4.44	0.00*
Inspecting/Testing	26.92	8.43	20.76	5.90	4.40	0.00*
Crafts/Precise Operations	23.60	8.39	18.97	6.19	3.26	0.00*
Customer Services	35.17	8.50	31.57	10.02	2.02	0.05*
Nursing/Technical Services	37.65	9.14	30.38	10.56	3.84	0.00*
Skilled Personal Services	35.90	8.88	28.72	7.86	4.50	0.00*
Training	32.85	8.62	31.36	6.89	0.99	0.32
Literary	31.58	8.85	27.79	9.47	2.16	0.03*
Numerical	25.85	8.14	19.17	8.07	4.31	0.00*
Appraisal	25.12	7.46	20.19	7.05	3.56	0.00*
Agriculture	23.58	8.51	24.00	8.88	-0.25	0.80
Applied Technology	23.27	8.14	19.66	7.43	2.43	0.02*
Promotion/Communication	30.04	9.03	26.21	8.41	2.30	0.02*
Management/Supervision	30.37	8.29	23.28	7.27	4.78	0.00*
Artistic	34.98	8.29	35.91	9.58	-0.54	0.59
Sales Representative	26.83	8.97	20.59	6.52	4.13	0.00*
Music	34.31	11.48	31.97	11.45	1.07	0.29
Entertainment/Performing Arts	34.27	10.38	31.86	10.45	1.21	0.23
Teaching/Counseling/Social Work	35.60	10.28	28.91	8.95	3.64	0.00*
Medical	30.71	10.52	23.10	9.30	4.03	0.00*

*Indicates nonsignificant correlation at the .01 level of significance; therefore, a significant difference exists between expressed and tested interests.

24 variables, significant t-ratios were computed. The differences were so great that the t-probability exceeded the .01 level in only three cases. These were for Agriculture (.02), Numerical (.03), and Applied Technology (.05). The other 21 work area means differed to the extent that the calculated t-probabilities were all 0.00 when rounded to two decimal places. Only in the case of Applied Technology, with a t-value of 2.03, did the mean difference approach a lack of significance at the designated alpha level.

Somewhat similar results were evident when the expressed interests of females were considered. Information concerning this comparison is presented in Table 5. Disadvantaged and high socioeconomic females differed significantly in ten of the 24 OVIS work areas. On eight of the ten variables, the disadvantaged females had the higher expressed means. In the cases of Artistic and Agriculture, the females from the more affluent group had significantly higher scores.

Again, when tested interests were investigated, the differences between this group were more apparent. T-test results on tested interests are contained in Table 6. An examination of this table revealed that on 22 of the 24 scales, the disadvantaged group scored higher. On 18 of the scales the differences were significant. In the two areas where the more affluent students scored higher, nonsignificant t-ratios were computed. These were the same two areas--Artistic and Agriculture--where the same group had expressed more interest than the disadvantaged group.

Rank Ordering of Vocational Interests by Group

One objective of the study was to determine the rank order correlations of vocational interest scores. The rank orderings of expressed interests by group, are presented in Table 7. The computed rank order correlation coefficients are presented at the bottom of this table.

TABLE 7. RANK ORDER CORRELATION COEFFICIENTS BETWEEN GROUPS BY SEX FOR THE EXPRESSED INTEREST SCORES

	Rank Ordering			
	Males		Females	
Work Areas	Inner-city Disadvantaged	High Socio-Economic	Inner-city Disadvantaged	High Socio-Economic
Manual Work	12	23	19.5	24.0
Machine Work	3	12	17	23
Personal Services	20	21	6	13
Care of People/Animals	10	8	4	2
Clerical Work	19	20	1	6
Inspecting/Testing	13.5	14	12	18.5
Crafts/Precise Operations	5	1	24	20
Customer Services	11	9.5	9	4
Nursing	24	19	3	10
Skilled Personal Services	22	24	13	14
Training	5	9.5	14	9
Literary	23	22	18	15
Numerical	21	15	19.5	17
Appraisal	15.5	5.5	21.5	22
Agriculture	17	3	23	12
Applied Technology	7.5	5.5	21.5	21
Promotion/Communication	9	2	11	7
Management/Supervision	2	7	16	16
Artistic	15.5	11	10	1
Sales Representative	18	17	15	18.5
Music	1	16	5	8
Entertainment/Performing Arts	7.5	18	7	5
Teaching/Counseling/Social Work	13.5	13	2	3
Medical	5	4	8	11
	r_s = .55*		r_s = .76*	

* $p < .01$

Disadvantaged males ranked Music as their area of highest interest while the high socioeconomic males gave the highest ranking to Crafts/Precise Operations. The second choice of disadvantaged males was Management/Supervision. The correspondingly ranked work area for the other group was Promotion/Communication. Nursing/Technical Services ranked lowest for the disadvantaged group but Skilled Personal Services was the area ranked lowest by their more affluent counterparts.

Several work areas were identified where the relative rankings were widely dispersed. Manual Work, ranked 12th by the high socioeconomic group, was one example. Other scales where wide rankings resulted were Machine Work (3rd by disadvantaged - 12th by high socioeconomic), Appraisal (15.5 - 5.5), Agriculture (17 - 3), Promotion/Communications (9 - 2), Music (1 - 16), and Entertainment/Performing Arts (7.5 - 18).

The Spearman Rank Order correlation coefficient computed for the comparison of the two rank orderings was .55. This coefficient was significant beyond the .01 level. Thus, even with some disparities between the rankings assigned certain work areas, there still existed a significant relationship between the rankings by the two groups.

The rankings of the work areas by the two groups of females were less diverse than those of males. Disadvantaged females gave a rank of "1" to Clerical Work and a "2" to Teaching/Counseling/Social Work. The lowest rankings went to Crafts/Precise Operations. High socioeconomic females ranked Artistic first and Care of People/Animals second. Lowest in rank was Manual Work. There were only five areas where rankings were relatively wide apart. The most disparity was identified on the scale, Artistic (10 by disadvantaged - 1 by high socioeconomic). Other areas where similar differences were noted were Machine Work (17 - 23), Personal Service (6 - 13), Inspecting/Testing (12 - 18.5), and Nursing/Technical Services (3 - 10).

The Spearman Rank Order correlation coefficient for the comparison of rankings by the two groups of females was .76. This correlation was even larger than that computed for the males and was significant well beyond the .01 level.

The rank orderings of tested interests were also analyzed. The orderings and correlation coefficients for tested interests are presented in Table 8.

The highest mean score for disadvantaged males was for the work area Training. Therefore, Training received the ranking of one. This work area ranked third for non-disadvantaged males. The work area Applied Technology displayed the highest mean score for non-disadvantaged males. Applied Technology rated third among the scores for the disadvantaged group. Many other work areas received close rankings. Manual Work was similarily ranked for each group, displaying the lowest means and receiving a ranking of 24 for each group. Other work areas for which similar ranks resulted were Machine Work (10 - 13), Personal Service (22 - 22), Crafts, Precise Operations (8 - 9), Skilled Personal Service (23 - 21), Literary (15 - 14), and Teaching/ Counseling/Social Work (19 -17).

Several work areas displayed extremely large differences in rank between the groups of males, the largest difference being for Numerical. The high socioeconomic group ranked this work area fourth, but the disadvantaged males ranked it twenty-first. Entertainment/Performing Arts also differed considerably; varying from fourth to eighteenth between the groups. Other large variations in ranking were found for Nursing (6 - 19), Appraisal (14 - 2), and Agriculture (18 - 5). The overall correlation between the rank orders was .50, high enough to be significant beyond the .01 level.

Further analysis of the rankings, revealed other interesting findings. Neither group of males displayed much interest in Manual Work; both ranked it extremely low (24 - 24). Similar results were obtained for Personal Service

TABLE 8. RANK ORDER CORRELATION COEFFICIENTS BETWEEN GROUPS BY SEX FOR THE OVIS WORK AREAS

	Rank Ordering			
	Males		Females	
Work Area	Inner-city Disadvantaged	High Socio-Economic	Inner-city Disadvantaged	High Socio-Economic
Manual Work	24	24	23	23
Machine Work	10	13	24	24
Personal Services	22	22	11	12
Care of People/Animals	13	12	1	1
Clerical Work	20	23	2	8
Inspecting/Testing	17	20	17	17
Crafts/Precise Operations	8	9	20	22
Customer Services	9	15	6	5
Nursing/Technical Services	6	19	3	7
Skilled Personal Services	23	21	4	10
Training	1	3	10	6
Literary	15	14	12	11
Numerical	21	4	16	21
Appraisal	14	2	19	19
Agriculture	18	5	21	14
Applied Technology	3	1	22	20
Promotion/Communication	11	7	15	13
Management/Supervision	5	8	14	15
Artistic	7	10	7	2
Sales Representative	16	11	18	18
Music	2	6	8	3
Entertainment/Performing Arts	4	18	9	4
Teaching/Counseling/Social Work	19	17	5	9
Medical	12	16	13	16
	$r_s = .50$*		$r_s = .87$*	

*$p < .01$

(22 - 22), Clerical (20 -23), Inspecting/Testing (17 - 20), and Skilled Personal Services (23 - 21). Both groups were interested in Training (1 - 3), Applied Technology (3 - 1), and Music (2 - 6).

When considering those work areas with large differences in rank, other observations were made. Nursing/Technical Services displayed a large variation in rank (6 - 19). The inner-city disadvantaged group ranked it sixth, indicating that this work area was considered to be among the more desirable, and achievable, occupational areas. Numerical displayed the greatest variation (21 - 4). Inner-city disadvantagement normally includes academic disadvantagement. The ranking of 21 by the disadvantaged versus four for the high socioeconomic would indicate the level of confidence each group had in relation to their mathematical skills. The wide variation for Agriculture (18 - 5) might be attributed to the lack of exposure the inner-city disadvantaged would have to this occupational area. The disadvantaged ranked Entertainment/Performing Arts considerably higher than did the non-disadvantaged (4 - 18). Many inner-city disadvantaged have escaped their disadvantaged conditions through success in this work area. Therefore, this work area was viewed with favor. Another work area which can spell financial success without years of academic preparation is Sales Representative (16 -11). Neither group ranked this work area among the highest, but the disadvantaged ranked it quite low. It could be that they viewed it as a low class job, not realizing the economic possibilities present.

There resulted a striking difference for the work area rankings of the females. When the size of the mean scores for each work area was disregarded, the vocational interest patterns of the two groups were quite similar. A highly significant rank order correlation coefficient of .87 was computed.

Care of People/Animals ranked first for both groups. The inner-city disadvantaged ranked Clerical Work second, but the high socioeconomic group

ranked it eighth. This difference might be attributed to relatively easy access to a respectable work area. Similar variations were found for Nursing/ Technical Services (3 - 7), Skilled Personal Services (4 - 10), and Teaching/ Counseling/Social Work (5 - 9).

Artistic ranked second for the high socioeconomic females, but seventh for the disadvantaged. Music (8 - 3) and Entertainment/Performing Arts (9 - 4) received the third and fourth ratings for the non-disadvantaged females.

Both groups indicated high interest for Care of People/Animals (1 - 1), but the next ratings varied markedly between the two groups. The high socio-economic females were quite interested in music and the arts, while the dis-advantaged were more interested in clerical work, nursing, and skilled personal service occupations.

Neither group displayed much interest for the area Machine Work (24 - 24) or Manual Work (23 - 23). Other areas marked consistently low by both groups included Applied Technology (22 - 20), Agriculture (21 - 14), and Crafts/ Precise Operations (20 - 22). Numerical (16 - 21) was also among the lower rated groups for the high socioeconomic females. The groups differed only for Agriculture and Numerical on the lower interest work areas. The inner-city disadvantaged females displayed less interest in Agriculture. As was the case with males, this rating probably resulted from lack of knowledge about agricul-ture occupations. The disadvantaged females displayed higher interest in Numerical than did the non-disadvantaged females, although neither rated this area very high. This was opposite from the males. For males, the high socio-economic group displayed considerable interest in the work area Numerical, rating it fourth. The disadvantaged males rated it twenty-first.

Statistical comparisons were not computed between the interest scores of males and femlaes, but inspection of Table 8 allows a visual comparison of the rankings. As would be expected, the interest patterns varied considerably.

Similar ratings were found for Manual Work, with both males and females displaying very low interest. Other work areas with similar rankings included Inspection/Testing, Literary, and Medical. Females tended to show interest in people-related work areas such as Care of People/Animals, Clerical Work, Nursing/Technical Services, and the arts. Males displayed more interest in work areas dealing with data and things, with high interest in the area Applied Technology and Training. There was, however, considerable variation between the males from the two groups, with the disadvantaged being highly interested in Music and Entertainment/Performing Arts and the high socioeconomic males interested in Appraisal and Numerical.

Group Interest Profiles Versus National Norms

The fourth objective of the study was to plot the interest profiles of the two special groups against the national norms established for the OVIS, thus providing a reference point from which to work when counseling special students. Table 9 contains the means and standard deviations obtained by the normative group of ninth-grade students. Presented in Figure 1 are the plottings of the mean scores for males. The profile for the high socioeconomic groups of males conforms quite well to the established norms, with their scores being slightly lower than the norms. A few scores vary to a greater degree, the norms being higher. These include Machine Work, Crafts, Precise Operations, Music, and Teaching/Counseling/Social Work. The high socioeconomic males exhibited lower interest in these work areas than was established for the national norm group.

The disadvantaged males were considerably above the national norms for every work area. The profile had a somewhat similar shape, but at a much higher level. The disadvantaged males tended to indicate a higher interest for everything, with their lowest interest scores being greater than the top scores

TABLE 9. MEANS AND STANDARD DEVIATIONS OF OVIS SCALES FOR NORMATIVE GROUP OF NINTH GRADERS, BY SEX*

Work Area	Males		Females	
	$\bar{X}$	SD	$\bar{X}$	SD
Manual Work	21.9	7.8	17.7	5.7
Machine Work	29.1	9.8	16.0	5.6
Personal Services	22.1	7.9	26.5	8.6
Care of People/Animals	25.9	8.2	37.4	9.3
Clerical Work	23.2	7.3	33.0	10.0
Inspecting/Testing	23.6	7.6	21.7	6.6
Crafts/Precise Operations	30.2	8.7	18.5	5.9
Customer Services	25.3	7.9	31.6	8.5
Nursing/Technical Services	24.0	8.6	33.1	11.1
Skilled Personal Services	22.1	7.5	30.8	8.9
Training	31.1	7.8	31.1	7.2
Literary	24.8	7.9	28.6	8.6
Numerical	28.5	10.2	23.4	9.1
Appraisal	30.0	8.0	21.2	6.7
Agriculture	28.6	9.9	21.0	8.5
Applied Technology	33.5	9.4	20.6	7.2
Promotion/Communication	27.6	8.6	27.9	8.3
Management/Supervision	29.1	8.1	25.4	7.5
Artistic	27.1	8.4	33.3	9.2
Sales Representative	27.3	7.8	23.2	6.8
Music	27.3	10.9	29.9	10.6
Entertainment/Performing Arts	25.4	8.8	30.4	9.7
Teaching/Counseling/Social Work	27.5	8.6	32.3	9.2
Medical	24.6	9.4	26.0	10.3

*This information came from the Manual for Administering and Interpreting the OVIS.

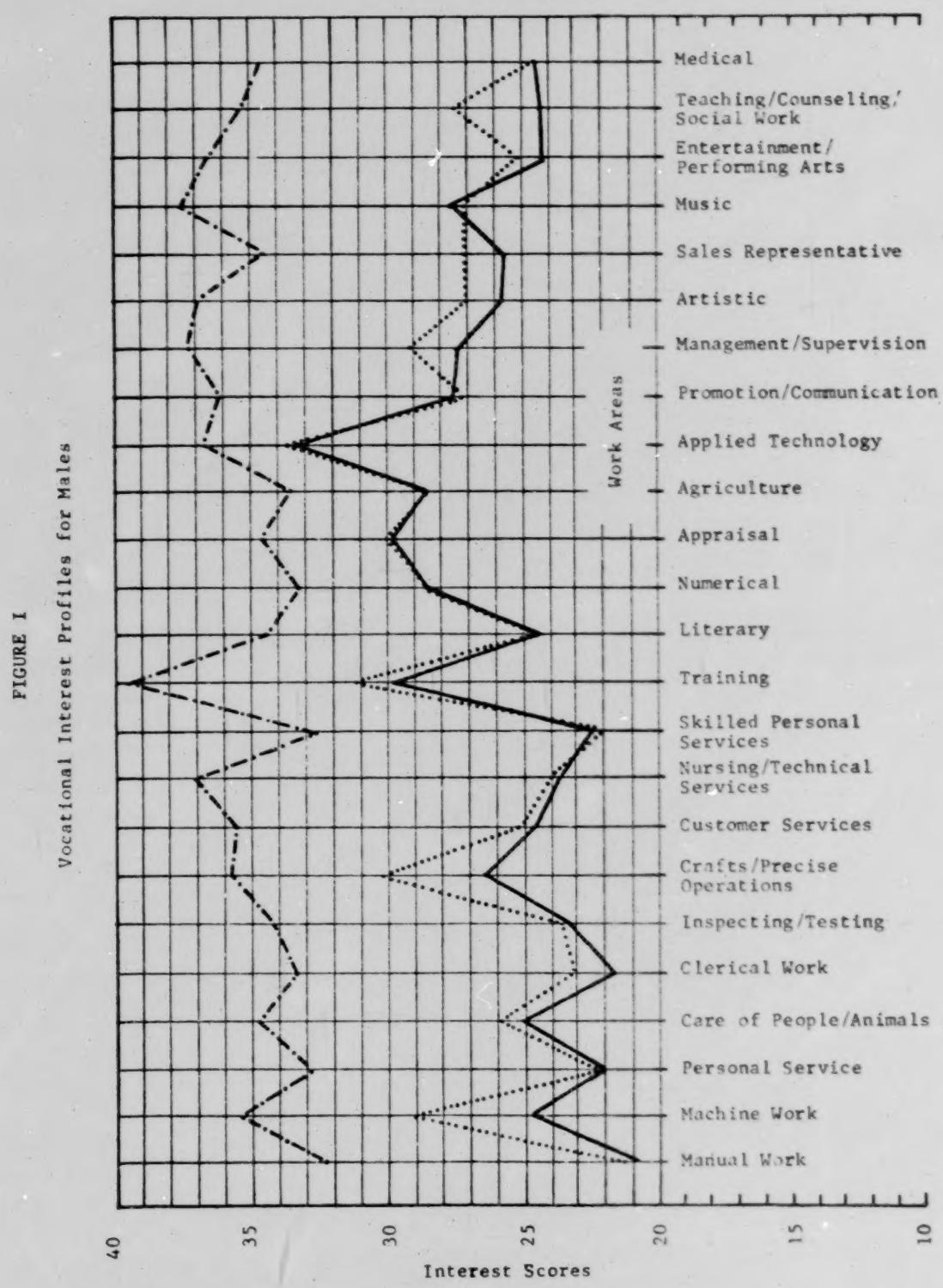

FIGURE I

Vocational Interest Profiles for Males

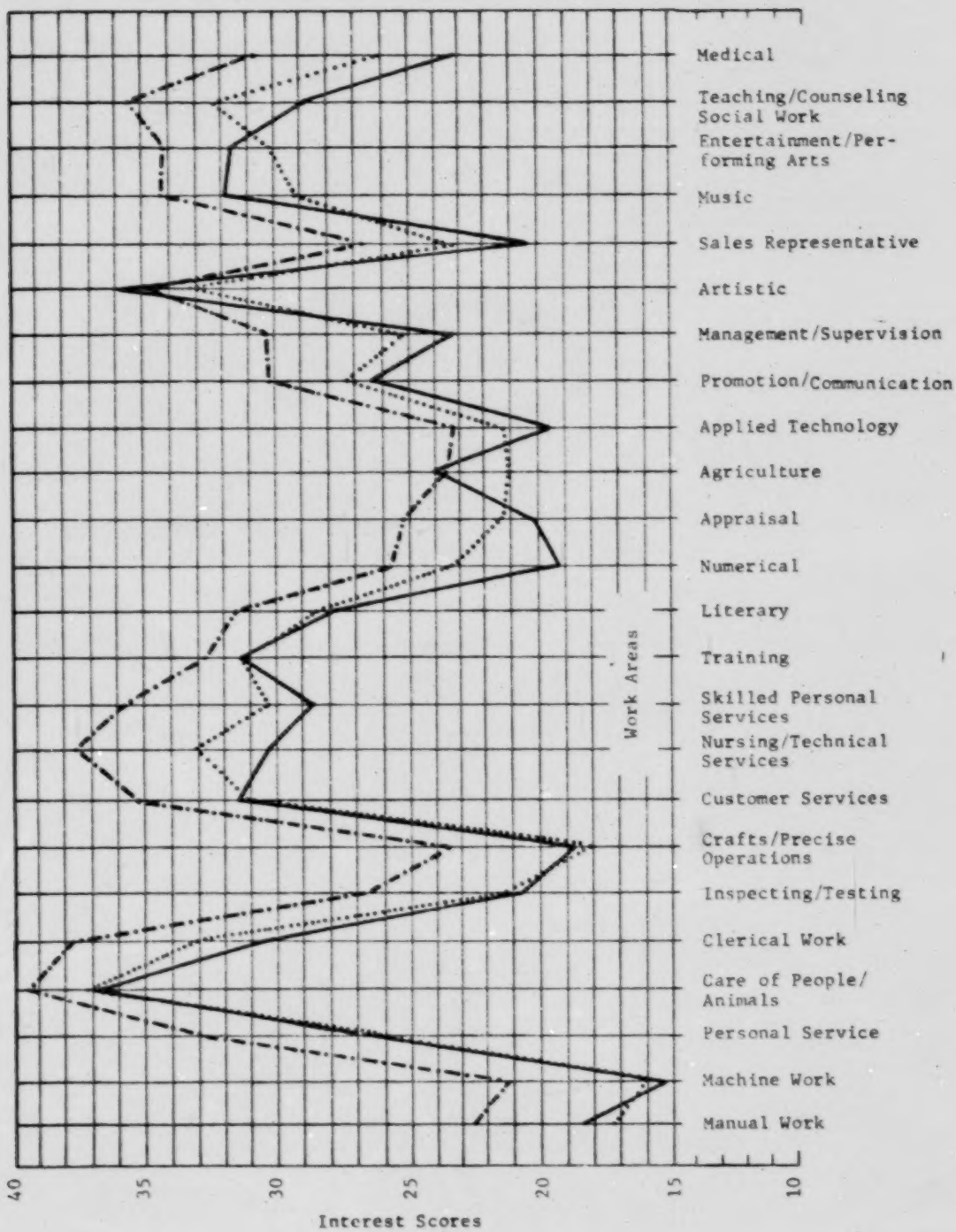

FIGURE 2

Vocational Interest Profiles for Females

for the high socioeconomic group. Only one score from the national norms, Applied Technology, approached the level of scores displayed by the disadvantaged group.

A somewhat different pattern resulted for the females. Their profiles are plotted on Figure 2. The disadvantaged group was consistently higher, but not on as drastically a different plane as was the case for males. The profiles were similar in shape, but the disadvantaged females varied from the norms and the high socioeconomic females more for the areas Nursing/Technical Services, Skilled Personal Services, Training, and Management/Supervision.

The profile for females from the high socioeconomic group conformed to established norms with few exceptions. This group deviated from national norms slightly by displaying lower scores for Nursing/Technical Services, Skilled Personal Services, and Numerical. Higher scores were recorded for Agriculture, Music, and Entertainment/Performing Arts.

Overall, the interest patterns of females tended to be similar across groups, with the disadvantaged recording consistently higher scores. The disadvantaged males tended to indicate consistently high interest across all work areas, peaking with the highest interest for the work area Training and lowest interest for Manual Work.

Vocational Interests of Students with High and Low Academic Ability

In order to accomplish Objective Five, groups of students with high and low academic ability were identified. Comparisons of the vocational interests of the two groups were then made through the use of t-test. The results of this statistical treatment comparing the expressed interests of high-ability and low-ability males are presented in Table 10.

High-ability males exhibited low interest in Manual Work (1.77), Personal

TABLE 10. T-TESTS FOR HIGH-ABILITY MALES VERSUS LOW-ABILITY MALES ON EXPRESSED VOCATIONAL INTERESTS

Work Area	HIGH ABILITY (N=30) $\bar{X}$	SD	LOW-ABILITY (N=33) $\bar{X}$	SD	T-ratio	T-Prob.
Manual Work	1.77	1.41	2.70	1.26	-2.77	0.01*
Machine Work	2.53	0.86	3.24	1.30	-2.57	0.01*
Personal Service	1.97	0.81	2.30	1.07	-1.39	0.16
Care of People/Animals	2.80	1.06	3.15	1.23	-1.21	0.23
Clerical Work	2.50	0.94	2.27	1.21	0.83	0.41
Inspecting/Testing	2.43	0.90	2.82	1.07	-1.53	0.13
Crafts/Precise Operations	3.50	1.04	3.88	0.99	-1.48	0.14
Customer Services	2.67	0.84	2.58	1.15	0.36	0.72
Nursing/Technical Services	2.80	1.06	2.03	1.21	2.67	0.01*
Skilled Personal Services	2.10	0.88	2.15	1.03	-0.21	0.83
Training	2.83	0.91	3.30	1.29	-1.68	0.10
Literary	2.83	1.34	1.85	1.00	3.32	0.00*
Numerical	3.30	1.37	2.03	1.16	3.99	0.00*
Appraisal	2.93	1.26	2.85	1.18	0.28	0.78
Agriculture	3.30	1.26	3.36	1.48	-0.18	0.86
Applied Technology	3.53	1.36	3.30	1.33	0.68	0.50
Promotion/Communication	3.50	1.43	2.94	1.50	1.51	0.14
Management/Supervision	3.73	1.11	3.52	1.37	0.69	0.49
Artistic	3.20	1.45	2.73	1.23	1.40	0.17
Sales Representative	2.50	1.20	2.21	1.27	0.92	0.36
Music	2.73	1.39	2.33	1.51	1.09	0.28
Entertainment/Performing Arts	2.60	1.30	2.67	1.47	-0.19	0.85
Teaching/Counseling/Social Work	3.10	1.40	2.61	1.34	1.43	0.16
Medical	3.67	1.45	2.91	1.47	2.06	0.04*

* $p < .01$

Service (1.97), and Skilled Personal Services (2.10). They indicated preferences for Management/Supervision (3.73), Medical (3.67), Applied Technology (3.53), Crafts/Precise Operations (3.50), and Promotion/Communication (3.50).

Low-ability males had interest scores which ranged from a high of 3.88 for Crafts/Precise Operations to a low of 1.85 for the Literary area. Other areas of high interest for this group were Management/Supervision (3.52), Agriculture (3.36), Applied Technology (3.30), and Training (3.30). Low interest was expressed for the following occupational areas: Nursing/Technical Services (2.03), Numerical (2.03), and Skilled Personal Services (2.15).

Overall, there were ten work areas where the low-ability students had higher mean scores than the high-ability males. In two cases, Manual Work and Machine Work, the difference between the means were significant. The high-ability males were uninterested in Manual Work, expressing their lowest interest in the area. While they were somewhat more interested in Machine Work, the low-ability students expressed a great deal of interest in the area.

Of the 14 work areas where high-ability males expressed more interest than their less academically-gifted counterparts, significant differences were identified in four cases. The t-test results showed the high-ability students to be significantly more interested in Nursing/Technical Services, Literary, Numerical, and Medical. These findings are totally in line with the current conception of the abilities needed by those wishing to pursue careers in these fields. Most obviously, Literary and Numerical-related jobs would require well-developed abilities in verbal and quantitative areas. The other two interest areas also require high academic ability at some levels. However, many of the new and emerging health occupations may be successfully pursued by those with less ability.

A slightly different pattern may be identified when analyzing the data on

the tested interests of these two groups. The information relative to tested vocational interests is contained in Table 11.

Tested interests of high-ability males were consistent with their expressed interests. The same three areas of low expressed interest appeared as the three lowest tested interest areas. The lowest interest was again in the area of Manual Work (18.27), followed by Skilled Personal Services (19.03), and Personal Service (19.63). High tested interests were identified for Applied Technology (33.13), Numerical (30.03), Appraisal (29.30), and Training (29.27). Of these, only Applied Technology had been one of the top five interest areas as overtly expressed by these students.

On 18 of the OVIS scales the low-ability group had higher mean scores than the high-ability males. The areas of high interest for these students were Training (33.52), Applied Technology (32.24), Crafs/Precise Operations (31.30). and Machine Work (30.15). Lowest interest areas were Clerical Work (24.73), Skilled Personal Services (25.45), Numerical (25.85), and Medical (26.00). For this group, the range of scores was relatively small.

The *t*-ratios computed when the tested interests of the two groups were compared revealed that the groups differed significantly on nine OVIS scales. In every case, the higher mean score was obtained by the low-ability students. Three of these significant *t*-ratios were for areas where the two groups differed significantly in expressed interests. The areas of Manual Work and Machine Work followed exactly thepattern previously observed--the low-ability males were significantly more interested in these areas. The analysis concerning Nursing/ Technical Services revealed an opposite pattern. Where in terms of expressed interests, the high-ability students showed more interest, the results from the OVIS testing revealed that the low-ability students were significantly more

TABLE 11. T-TESTS FOR HIGH-ABILITY MALES VERSUS LOW-ABILITY MALES ON TESTED VOCATIONAL INTERESTS

Work Area	HIGH-ABILITY (N=30) $\bar{X}$	SD	LOW-ABILITY (=33) $\bar{X}$	SD	T-ratio	T-prob.
Manual Work	18.27	6.39	26.61	10.01	-3.98	0.00*
Machine Work	22.10	8.27	30.15	8.75	-3.74	0.00*
Personal Service	19.63	6.82	27.33	10.39	-3.51	0.00*
Care of People/Animals	23.17	7.02	28.42	10.17	-2.41	0.02*
Clerical Work	21.33	6.79	24.73	8.81	-1.70	0.09
Inspecting/Testing	20.90	5.67	27.67	9.60	-3.44	0.00*
Crafts/Precise Operations	25.37	8.86	31.30	9.57	-2.55	0.01*
Customer Services	22.80	7.11	27.88	9.00	-2.47	0.02*
Nursing/Technical Services	22.03	7.08	26.67	9.58	-2.20	0.03*
Skilled Personal Services	19.03	6.38	25.45	9.06	-3.27	0.00*
Training	29.27	7.60	33.52	9.46	-1.95	0.06
Literary	26.23	7.70	26.12	8.40	0.06	0.96
Numerical	30.03	11.79	25.85	9.67	1.55	0.13
Appraisal	29.30	6.59	28.70	8.42	0.31	0.75
Agriculture	25.30	7.75	28.85	10.85	-1.50	0.14
Applied Technology	33.13	9.71	32.24	8.94	0.38	0.71
Promotion/Communication	28.20	9.46	27.39	9.46	0.34	0.74
Management/Supervision	28.47	8.72	29.58	9.31	-0.49	0.63
Artistic	25.53	7.93	27.09	8.98	-0.73	0.47
Sales Representative	25.17	6.73	27.45	8.78	-1.15	0.25
Music	27.60	12.50	27.06	11.16	0.18	0.86
Entertainment/Performing Arts	23.90	7.16	26.52	9.60	-1.22	0.23
Teaching/Counseling/Social Work	24.37	7.14	26.70	8.18	-1.20	0.24
Medical	25.77	9.92	26.00	10.17	-0.09	0.93

* $p < .01$

interested than the other group. It is possible that the low-ability students were not aware of the possible work roles embodied in the Nursing/Technical Services area. Thus, their expressed interests were not as strong as their tested interests would indicate they should have been.

Other areas where the low-ability males had significantly higher scores were Personal Service, Care of People/Animals, Inspecting/Testing, Crafts/Precise Operations, Customer Services, and Skilled Personal Services. Where other differences were identified with regard to expressed interests, the differences disappeared on the measure of tested interests. Where before the high-ability males were significantly more interested in Literary, Numerical, and Medical occupations, there were no significant differences between the groups on the OVIS. In fact, extremely small t-ratios were computed fo the areas Literary and Medical. Apparently, low-ability students had more i terest in these areas than they realized or indicated overtly on the expressed interest scale.

High- and low-ability females tended to exhibit interest scores which ranged more widely than males as can be observed in Table 12. Low scores tended to be lower and high scores tended to be higher for both groups. The high-ability females on the measure of expressed vocational interests, exhibited the highest means for Artistic (4.25), Teaching/Counseling/Social Work (3.91), Entertainment/Performing Arts (3.78), and Promotion/Communication (3.75). Low interests were expressed for the areas of Manual Work (1.38), Machine Work (1.69), Appraisal (1.88), and Sales Representative (1.94). The findings are consistent with those observed with other groups of females. High interests were generally expressed for work areas which have been traditionally open to women.

TABLE 12. T-TESTS FOR HIGH-ABILITY FEMALES VERSUS LOW-ABILITY FEMALES ON EXPRESSED VOCATIONAL INTERESTS

Work Area	HIGH-ABILITY (N=32) $\bar{X}$	SD	LOW-ABILITY (N=32) $\bar{X}$	SD	T-ratio	T-prob.
Manual Work	1.38	0.66	2.19	1.09	-3.61	0.00*
Machine Work	1.69	0.82	1.91	0.96	-0.98	0.33
Personal Service	2.94	0.88	3.38	0.87	-2.00	0.05*
Care of People/Animals	3.69	1.28	4.13	0.94	-1.56	0.13
Clerical Work	3.44	1.37	3.50	1.24	-0.19	0.85
Inspecting/Testing	2.13	1.01	2.50	1.16	-1.38	0.17
Crafts/Precise Operations	2.75	1.22	2.09	1.25	2.12	0.04*
Customer Services	3.63	0.91	3.63	1.13	0.00	1.00
Nursing/Technical Services	3.47	1.16	3.69	1.15	-0.76	0.45
Skilled Personal Services	3.09	1.15	3.16	1.42	-0.19	0.85
Training	3.41	1.27	3.22	1.13	0.63	0.53
Literary	3.19	1.55	2.28	1.49	2.38	0.02*
Numerical	2.63	1.36	1.97	1.26	2.00	0.05*
Appraisal	1.88	1.01	2.16	1.19	-1.02	0.31
Agriculture	3.50	1.48	3.06	1.46	1.19	0.24
Applied Technology	2.16	1.17	1.88	0.94	1.06	0.29
Promotion/Communication	3.75	1.14	3.19	1.33	1.82	0.07
Management/Supervision	3.13	1.16	2.75	1.22	1.26	0.21
Artistic	4.25	1.08	3.75	1.34	1.64	0.11
Sales Representative	1.94	0.88	2.84	1.17	-3.51	0.00*
Music	3.56	1.27	3.72	1.35	-0.48	0.63
Entertainment/Performing Arts	3.78	1.24	3.69	1.31	0.29	0.77
Teaching/Counseling/Social Work	3.91	1.17	3.06	1.44	2.57	0.01*
Medical	3.44	1.37	3.25	1.32	0.56	0.58

* $p < .01$

Low-ability females also expressed preferences for work areas normally offering many job opportunities to females. Care of People/Animals was rated highest with a mean of 4.13. Other areas where high means were exhibited were Artistic (3.75), Music (3.72), Entertainment/Performing Arts (3.69), Nusing/Technical Services (3.69), and Customer Services (3.63). These choices seem to be very realistic ones for low-ability females. A majority of the specific occupations related to these broad work areas could offer opportunities to those who have some abilities other than academic ones. For many of these jobs, artistic or musical abilities would be needed. For numerous other positions, the ability to relate to people would be a major prerequisite. While some academic ability would be needed, persons other than those with the highest academic scores would find success.

Comparing the two groups of females led to the identification of seven work areas where the groups differed. In the areas of Manual Work, Personal Service, and Sales Representative, the low-ability females expressed significantly higher interests. The high-ability students exhibited the higher means on Crafts/Precise Operations, Numerical, Literary and Teaching/Counseling/Social Work. The reason for the differences could be that students were reflecting their own assessment of their abilities. In general, females tended to express preferences for areas where their abilities would allow them to achieve success. In those areas where academic ability would be a major determiner of success, high-ability students were more likely to express higher interests. Low-ability students were more likely to choose areas requiring other kinds of abilities.

Fewer differences between these two groups were identified when tested interest scores were examined. The information relative to tested interests is presented in Table 13. As before, the area of highest interest for high-

TABLE 13. T-TESTS FOR HIGH-ABILITY FEMALES VERSUS LOW-ABILITY FEMALES ON TESTED VOCATIONAL INTERESTS

Work Area	HIGH-ABILITY (N=32) $\bar{X}$	SD	LOW-ABILITY (N=32) $\bar{X}$	SD	T-ratio	T-prob.
Manual Work	17.53	5.49	20.09	8.47	-1.44	0.16
Machine Work	14.97	4.40	17.81	8.18	-1.73	0.09
Personal Service	25.06	8.96	26.91	9.10	-0.82	0.42
Care of People/Animals	34.91	10.43	35.66	9.48	-0.30	0.76
Clerical Work	29.69	11.81	28.59	11.40	0.38	0.71
Inspecting/Testing	19.38	4.89	24.03	10.34	-2.30	0.03*
Crafts/Precise Operations	18.94	5.33	21.94	9.00	-1.62	0.11
Customer Services	30.28	9.31	33.38	15.37	-0.97	0.33
Nursing/Technical Services	29.66	9.87	31.28	10.94	-0.62	0.53
Skilled Personal Services	28.50	7.50	31.66	11.90	-1.27	0.21
Training	31.91	6.58	28.47	7.30	1.98	0.05*
Literary	30.00	7.97	24.28	7.36	2.98	0.00*
Numerical	22.25	10.11	21.97	15.91	0.08	0.93
Appraisal	21.66	7.70	22.28	10.24	-0.28	0.78
Agriculture	25.25	9.63	23.16	13.51	0.71	0.48
Applied Technology	21.16	7.82	20.66	7.70	0.26	0.80
Promotion/Communication	28.06	8.20	27.00	14.30	0.36	0.72
Management/Supervision	25.03	7.69	23.69	8.80	0.65	0.52
Artistic	38.06	9.95	31.75	10.31	2.49	0.02*
Sales Representative	21.31	6.70	21.94	8.81	-0.32	0.75
Music	31.97	10.37	29.75	10.62	0.85	0.40
Entertainment/Performing Arts	33.56	8.79	29.16	10.45	1.83	0.07
Teaching/Counseling/Social Work	29.94	8.43	25.53	8.39	2.10	0.04*
Medical	24.06	8.82	24.94	9.64	-0.38	0.71

* $p < .01$

ability females was Artistic (38.06). Care of People/Animals (34.91), Entertainment/Performing Arts (33.56), Music (31.97), and Training (31.91) followed in order. This group of females demonstrated little interest in Machine Work (14.97), Manual Work (17.53), Crafts/Precise Operations (18.94), and Inspecting/Testing (19.38).

Low-ability females also exhibited high interest in Care of People/Animals (35.66) and in Customer Services (33.38), Artistic (31.75), Skilled Personal Services (31.66), and Nursing/Technical Services (31.28). As was the case with expressed interests, these occupational areas offer opportunities for prospective employees to capitalize on abilities other than academic ones. This group of females scored lowest in interest in Machine Work (17.81), Manual Work (20.09), and Applied Technology (20.66), all areas which require a high degree of involvement with "Things" rather than "People." The low-ability females seemed to be highly people-and service-oriented.

In four OVIS areas, high-ability females scored significantly higher than their counterparts. These areas were Training, Literary, Artistic, and Teaching/Counseling/Social Work. Although the Artistic area was rated highly by both groups, the high-ability females felt more strongly about it. The other two areas were of relatively low interest for the low-ability group.

On the Inspecting/Testing scale, the low-ability females scored significantly higher than the corresponding group of high-ability students. However, neither group had much interest in this occupational category. When a comparison of expressed interests with tested interests was undertaken, one or two points were somewhat surprising. One was that where expressed interests in the Numerical work area had differed, tested interests were virtually the same, relatively low for both groups. Another surprising finding was the relatively high interest shown by females in the area of Agriculture. This classification encompasses occupations which have been dominated by males in the past. If females have

become interested in the area because of a new awareness of job possibilities for females, this would be inconsistent with the previous finding that females tended to be interested in traditionally female work areas. It is also possible that their responses to items related to Agriculture were based on a lack of information about some other areas.

CHAPTER III

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter is devoted to a presentation of a summary of the findings and conclusions which were based on the data analysis. The chapter also includes some recommendations and/or implications which apply to the use of vocational interest information in the counseling setting.

Summary of the Findings and Resulting Conclusions

Fourteen hypotheses, stated in the null form, were tested in the study. Null Hypotheses 1 - 4 were tested through the use of correctional analysis. The findings of the study relative to the relationship of expressed to tested interests were mixed. With regard to $H_0 1$, the findings supported a conclusion that the hypothesis could be rejected for three of the 24 work area scales. The hypothesis was not rejected for the other 21 interest areas. Disadvantaged males tended to exhibit few differences between expressed and tested interests.

The conclusions reached relative to high socioeconomic students ($H_0 2$) were different. For ten of the work areas, sufficiently low correlations were found to lead to a conclusion that $H_0 2$ was rejected for these ten interest areas. The expressed interests of high socioeconomic males were significantly different from tested interests in 10 of 24 interest areas.

Hypotheses 3 and 4 concerned the interests of the female students. The disadvantaged females were found to differ significantly in interests (expressed versus tested) in 11 out of 24 cases. The conclusion reached was that $H_0 3$ was rejected for 11 of the 24 work areas. The high socioeconomic females exhibited significant differences between expressed and tested interests in only two areas. Thus, $H_0 4$ was not rejected for 22 work areas.

Comparisons were made between groups to test Null Hypotheses 5-8. It

was concluded that $H_0 5$ was rejected for 11 out of 24 comparisons. In all 11 cases, disadvantaged males were found to be significantly more interested in the work areas than their more advantaged counterparts. When tested interests were compared, it was concluded that disadvantaged males were significantly more interested in all 24 work areas than the high socio-economic males. Null Hypothesis 6 was rejected on all comparisons.

It was concluded that the two groups of females differed in expressed interest in ten vocational areas. Null Hypothesis 7 was not rejected for the other 14 scales. Of the ten differences, eight were in favor of the disadvantaged group and two in favor of the high socioeconomic group. Eighteen significant t-ratios were computed when tested interests of the two groups were compared. In all cases the higher mean scores belonged to the disadvantaged females. Thus, $H_0 8$ was rejected on the 18 variables.

Null Hypotheses 9 and 10 concerned possible differences in the rank ordering of interest areas by the sample groups. The rank ordering of expressed interests by males resulted in a significant rank order correlation and a failure to reject $H_0 9$. Neither was the hypothesis rejected for tested interests, as a significant correlation was also computed for these rankings.

Females also tended to exhibit interests which had similar rank orderings. The correlations computed on both expressed and tested interests were significant and much higher even then those for males. Null Hypothesis 10 was not rejected for either set of rankings.

Comparisons between students of high academic ability and low academic ability were made to test Null Hypothesis 11 - 14. Six significant t-ratios

were identified when the expressed interests of high-ability males were compared to those of low-ability males. The non-significant t-ratios in the other 18 interest areas resulted in a failure to reject $H_0$11 in the 18 cases. On four of the six comparisons, the high-ability students had the higher mean scores. When tested interests were considered, it was possible to reject $H_0$12 in nine comparisons. Differences between the groups on tested interests in the other 13 cases were non-significant. Where $H_0$12 was rejected, the low-ability students consistently displayed more interest in the area.

Null Hypothesis 13 was rejected in seven of 24 cases. For three of these comparisons, significantly higher scores were exhibited by the low-ability students. With regard to tested interests, significant differences were identified on five scales. On four of the five scales, the higher scores were obtained by the group of high-ability females. Null Hypothesis 14 was not rejected in 19 cases.

Several other findings were reported which were not related to specific hypotheses. Males from high socioeconomic backgrounds tended to display interest profiles which were very similar, though slightly lower, than the national norms. Disadvantaged males consistently displayed scores which were well above those exhibited by the normative groups of males. Both groups of females conformed quite closely to the national norms. The means for the disadvantaged females were consistently higher but not drastically so. The profile for high socioeconomic females conformed closely to established norms with few exceptions.

Recommendations

Based on the findings identified and the conclusions which were drawn, several recommendations were outlined. The recommendations were arranged in topical areas and are presented in this section.

Sex Differences

It is recommended that counselors, and others who interpret vocational interest information, recognize that the vocational interest patterns of males and females differ greatly. Females tend to exhibit interest in vocational areas which follow traditional practices in regard to the employing of females. Males tend to display a much wider range of interests, with much less evidence of stereotyped responses. Differences in interest patterns between males and females may become less pronounced in the future if businesses and industries begin to break down some of the traditional sexual barriers to employment. If the working world does become one of equal opportunities, regardless of sex, then females, especially, may begin to exhibit broader interest patterns.

Because of the emphasis given to equal employment by the federal government, new occupational fields are being opened to women. It is the job of the counselor to help females identify and explore the new possibilities. However, certain occupational areas will continue to attract a large proportion of female employees and these should not be overlooked.

Counseling with males will not change as drastically as with females. The range of occupational areas open to males has been broad. It is possible that a few more work areas will become attractive to males but not of the magnitude as that likely to affect females. The counselors role will continue to be one of helping students assess and make tentative career decisions.

Socio-cultural Differences

It is recommended that the counselor take socio-cultural factors into consideration when dealing with vocational interest information. The study revealed that disadvantaged males had relatively compatible expressed and tested interests. The counselor may be able to rely on either type of information when working with males who could be identified as coming from disadvantaged backgrounds.

A different pattern was observed when interest data for males identified as being from high socioeconomic backgrounds were analyzed. On almost half the interest scales there were differences between expressed and tested interest scores. Counseling with high socioeconomic males may be more difficult than with disadvantaged males. It is recommended that both expressed and tested interests be explained to these students. The counselor should help the students to understand what their areas of high interests are as assessed by a commercial test and as overtly expressed by the student. It may be that these students need more information in certain areas in order to begin to make tentative career decisions.

When special groups of females are involved in vocational counseling, the counselor must be aware that a pattern different from that observed with males is likely to surface. The disadvantaged females exhibited significant differences between expressed and tested interests on almost half the scales. The corresponding group of males showed few differences. Disadvantaged females must be made aware, through the use of both expressed and tested interest data, that they may be unaware of their true interests. More information relative to alternative occupations must be presented to these students. An attempt should be made to analyze student abilities in light of both types of interests. After a period of exploration and information - seeking, interests should be reassessed. It is possible that with additional awareness of real opportunities, expressed and tested interests may become less diverse.

High socioeconomic females were very consistent in expressed and tested interests. Significant differences were identified in only two areas. It is possible that expressed interests could be relied on to a greater extent with these students than with their less affluent counterparts. However, the use of both types of interest data would still be in order. The counselor could point out that expressed interests tended to be similar to tested interests and

counseling discussions could proceed from this base.

Comparisons between groups also led to findings and conclusions which have implications for vocational counseling. Differences between disadvantaged and high socioeconomic males were detected in 11 of the 24 expressed interest areas and in all 24 tested vocational interests. In every case, the disadvantaged males exhibited the higher interests. This should be a signal to counselors that problems may arise when working with these two groups. The high socioeconomic students tended to exhibit lower interests than the disadvantaged group but more in line with national norms. Their interest patterns might be more realistic, or it could be possible that these students, as a group, do not have a clear picture of their potential role as working members of society. No matter what career paths they ultimately choose, their attitudes and ambitions will play a large part in determining their successes or failures.

The counseling problem with the disadvantaged males may be one opposite to that just discussed concerning high socioeconomic males. The disadvantaged males had high expressed and tested interests in many areas. The counseling problem may be involved with helping these students narrow down their lists of potential career paths. It is impossible for them to pursue all or evan a few paths. These students, at the junior high and early high school level, must begin to make tentative career decisions. Perhaps some career exploration activities should be provided so that students can begin to place some more explicit priorities in certain career areas. Information about the projections for career opportunities in the local community schould also be provided.

Ability Differences

Males of high academic ability and those of low ability did not differ drastically on expressed interest scales. There were more cases of significant differences when tested interest scores were compared. Very similar results were identified when the scores of high-ability and low-ability females were

analyzed.

It may be that students from the same socioeconomic group do not perceive their academic abilities as making them different from other members of the group. Thus, a low-ability student may not perceive himself to be of low-ability. Or, if he does perceive a difference, he sees no implication that this difference would be reflected in occupational opportunities.

Another possible explanation for the few differences in expressed and tested interests between groups of students from different ability ranges may lie with the OVIS work scales. The 24 work areas are extremely broad. Each scale may encompass a wide range of occupations. Some may require much more formal training than others. Some may require much more highly-developed analytical abilities than others. Thus, it is possible that low-ability students indicated interests in a work area with specific reference to certain occupations which they perceived to be within their abilities to successfully pursue. High-ability students may also have expressed interest in the same work area but with reference to occupations which require drastically different abilities.

Counselors are urged to explore each of the OVIS work areas in some depth in order to determine exactly what occupations fall within each area and the abilities required to successfully enter and advance in the occupation. The identification of an area of high interest, whether tested or expressed, is just a starting point for extensive exploration.

Recommendations for Further Research

This study should be replicated exactly in order to assess the reliability of the results. It is also recommended that similar studies be conducted with sample groups from other populations, such as high-school students and adults. Similarly, other socioeconomic groups and ability groups should be used. Some

research should be conducted to determine if other interest assessment instruments yield similar results.

Some research is needed to determine what referents students use in expressing vocational interests. This research is needed especially in the case of students who have different ability levels and socioeconomic backgrounds.

Research should be done to determine the types of vocational interest information which are available to guidance counselors and how this information is used in counseling settings. Research is also needed relative to the effect of counseling sessions with vocational interest information on the ultimate career decisions of students.

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APPENDIX A

EXPRESSED OCCUPATIONAL INTEREST SCALE

Name_____

OCCUPATIONAL INTEREST SCALE

DIRECTIONS:

Listed below are 24 work areas. I will read a description of each area to help you know what kind of jobs are included in each area. After I describe each area I would like you to decide if you would enjoy doing that kind of work.

If you would definitely like to do the work in an area circle the number 5; if you feel the work is just O.K., then circle the number 4; if you can not decide about the work circle the number 3; if you would not like the work circle the number 2; and if you strongly dislike the work circle the number 1.

Example: Salesman	5	4	3	2	1
Manual Work	5	4	3	2	1
Machine Work	5	4	3	2	1
Personal Service	5	4	3	2	1
Care of People/Animals	5	4	3	2	1
Clerical Work	5	4	3	2	1
Inspecting/Testing	5	4	3	2	1
Crafts/Precise Operations	5	4	3	2	1
Customer Services	5	4	3	2	1
Nursing/Technical Services	5	4	3	2	1
Skilled Personal Services	5	4	3	2	1
Training	5	4	3	2	1
Literary	5	4	3	2	1
Numerical	5	4	3	2	1
Appraisal	5	4	3	2	1
Agriculture	5	4	3	2	1
Applied Technology	5	4	3	2	1
Promotion/Communication	5	4	3	2	1
Managment/Supervision	5	4	3	2	1
Artistic	5	4	3	2	1
Sales Representative	5	4	3	2	1
Music	5	4	3	2	1
Entertainment/Performing Arts	5	4	3	2	1
Teaching/Counseling/Social Work	5	4	3	2	1
Medical	5	4	3	2	1

APPENDIX B

DESCRIPTION OF OVIS WORK AREAS

DESCRIPTION OF WORK AREAS

1. Manual Work - Unskilled use of tools and routine work usually done by hand.

2. Machine Work - Operating and adjusting machines used in processing or manufacturing.

3. Personal Services - Providing routine services for people as a waiter, waitress, usher, household worker, etc.

4. Caring for People or Animals - Routine work related to the day-to-day needs of people or animals.

5. Clerical Work - Typing, recording, filing, IBM key punching, and other clerical or stenographic work.

6. Inspecting and Testing - Sorting, measuring, or checking products and materials; inspecting public facilities.

7. Crafts and Precise Operations - Skilled use of tools or other equipment as in the building trades, machine installation and repair, or the operation of trains, planes, or ships.

8. Customer Services - Conducting business relations with people as in retail selling, accepting reservations, receiving payments, or providing information.

9. Nursing and Related Technical Services - Providing services as a nurse, physical therapist, X-ray or medical laboratory technician, or dental hygienist.

10. Skilled Personal Services - Providing skilled services to people such as tailoring, cooking, barbering, or hairdressing.

11. Training - Instructing people in employment or leisure-time activities. Also includes animal training.

12. Literary - Writing novels, poetry, reviews, speeches or technical reports; editing, or translating.

13. Numerical - Using mathematics as in accounting, finance, data processing or statistics.

14. Appraisal - Determining the efficiency of industrial plants and businesses, evaluating real estate, surveying land, or conducting chemical or other laboratory tests.

15. Agriculture - Farming, forestry, landscaping, or the related fields of botany and zoology.

16. Applied Technology - Application of engineering principles and scientific knowledge to the design of structures and machines.

17. Promotion and Communication - Advertising, publicity, radio announcing, journalism, news information service, interviewing, recruiting, also providing legal services as a judge or lawyer.

18. Management and Supervision - Administrative or supervisory positions, such as a shop foreman, supervisor, school administrator, police chief, head librarian, executive, hotel manager, or union official. Includes owning or managing a store or business.

19. Artistic - Interior decorating, display work, photography, commercial and creative art work, or artistic restoration.

20. Sales Representative - Demonstrating and providing technical explanations of products or services to customers, selling and installing such products or services, and providing related technical assistance.

21. Music - Composing, arranging, conducting, singing, or playing instruments.

22. Entertainment and Performing Arts - Entertaining others by participating in dramatics, dancing, comedy routines or acrobatics.

23. Teaching, Counseling, and Social Work - Providing instruction or other services to schools, colleges, churches, clinics, or welfare agencies. Includes instruction in art, music, ballet, or athletics.

24. Medical - Providing medical, surgical, or related services for the treatment of people or animals.